

А. И. АНДРУ, А. И.  
МИТРОПОСКИ, А. И.; СТРОГОВ, Я. Т.; КНОТЯНОВА, Татьяна Львовна;  
ВОЛ'ПИ, Н. Я.; КИРЯКОВ, Д. Н.

"The Crystal Structures of Tropylium Perchlorate and Lactide"

a report presented at Symposium of the International Union of  
Crystallography Leningrad, 21-27 May 1959

~~5(2,3)~~ 5.3600

66171

SCV/20-128-5-24/67

AUTHORS: Vol'pin, M. Ye., Dulova, V. G., Kursanov, B. N., Corresponding Member, AS USSR

TITLE: Formation of Tropilium in the Reaction of Monohalocarbenes With Benzene

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 5, pp 951 - 952 (USSR)

ABSTRACT: The reaction of hydrogen peroxide with tropilium salts causes the elimination of one carbon atom and benzene formation as was proved by the authors some time ago (Ref 1). An inverse reaction, however, has so far not been known (extension of the benzene cycle with the formation of a tropilium cation). There exist only indirect data (Ref 2). The authors have proved that small quantities of tropilium bromide are formed in all cases if potassium tert-butylate acts on  $\text{CH}_2\text{Cl}_2$ ,  $\text{CH}_2\text{Br}_2$  or  $\text{CH}_2\text{J}_2$  in a benzene medium and hydrogen bromide treatment follows. This may be explained by intermediate formation of the monohalocarbenes  $\text{CHX}$  and their interaction with benzene (see Diagram). The concentration of the initial substances and the

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duration of reaction are of no importance for the yield. The tropilium yield increases slightly with temperature. The reaction investigated by the authors is the first case of formation of nonsubstituted monohalocarbenes observed. The rate of alcoholysis of haloid methylenes increases following the  $S_N2$  mechanism according to the order  $CH_2Cl_2 < CH_2Br_2 < CH_2J_2$  (Ref 4) whereas the yield of the tropilium salt increases in inverse order (in agreement with reference 5). There are 5 references, 2 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh sovedineniy Akademii nauk SSSR  
(Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: June 29, 1959

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~~5-4~~ 5.3200

66422

AUTHORS: Kursanov, D. N., Corresponding Member SOV/20-128-6-27/63  
AS USSR, Zdanovich, V. I., Parnes, Z. N.

TITLE: Application of Gammett's Equation to the Reaction of Isotopic  
Exchange of Hydrogen

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 6, pp 1196 - 1197  
(USSR)

ABSTRACT: The present paper investigates the influence of the substituents  
on the mobility of hydrogen atoms in the methyl group of the  
parasubstituted acetophenones. The method chosen for this pur-  
pose and mentioned in the title is the best one as the initial  
and end products are chemically identical. The reaction medium  
remains unchanged throughout the reaction. From the same point  
of view, the very small volume of the substituent (deuteron)  
is favorable. Consequently, the steric factors cannot be de-  
cisive for this reaction. Although the applicability of  
Gammett's equation (Ref 1) was investigated for many reactions  
(Ref 2), it had not yet been used for the purpose mentioned in  
the title. This gap has been closed by the authors. The said re-  
action was carried out in a large excess of absolute deuterio-  
ethanol. Sodium ethylate was used as a catalyst. The velocity

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constants of the reaction of 1st order at  $20^{\circ}$  for the hydrogen exchange of acetophenone and its parasubstituted derivatives: nitro-, bromo-, dimethylamine-, and methoxy acetophenone, further of the p-acetyl-diphenyl and 4-nitro-4'-acetyl diphenyl (Table 1) were determined. Figure 1 shows a diagram on the dependence of the logarithm of the velocity constant of the hydrogen-exchange reaction of the substituted acetophenones upon the constant of the substituent  $\sigma$ -paraposition. Hence, it appears that this dependence is expressed by a straight line. Thus, it was confirmed that Gammett's equation maintains its validity for the said reaction in an alkaline medium. The value  $\rho$  found for the reaction is 1.43. The correlation coefficient  $r = 0.99$ . - There are 1 figure, 1 table, and 4 references.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR  
(Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: July 3, 1959

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5(4)

AUTHORS:

Setkina, V. N., Kursanov, D. N.

SOV/62-59-3-8/37

TITLE:

Investigation of Hydrogen Exchange of Triarylcarbinols and Arylalkylcarbinols With Acids (Izucheniye vodorodnogo obmena triarilkarbinolov i arilalkilkarbinolov s kislotami)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 3, pp 433-436 (USSR)

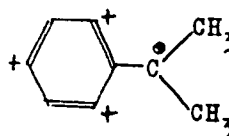
ABSTRACT:

In the present paper the hydrogen exchange between the tertiary aliphatic-aromatic alcohols and  $D_3PO_4$  as well as between aromatic alcohols and  $D_2SO_4$  was investigated. The investigation of the hydrogen exchange is difficult in tertiary aliphatic-aromatic alcohols because of their strong tendency toward dehydrogenation, in which olefins are formed. The formation of olefins can be retarded if the reaction between anhydrous phosphoric acid and tertiary alcohols takes place in absolute ether solution at low temperatures ( $-5-0^\circ$ ). For comparison the hydrogen exchange of structurally similar aliphatic and alicyclic alcohols was investigated (Table 1). It may be seen that the substitution of the aromatic radical for the aliphatic one retards the hydrogen exchange in the tertiary

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Investigation of Hydrogen Exchange of Triarylcarbinols SOV/62-59-3-8/37  
and Arylalkylcarbinols With Acids

alcohol to a considerable extent. The investigation of the hydrogen exchange in tertiary aromatic alcohols - triarylcarbinols - does not offer great difficulties since these alcohols have no tendency towards dehydrogenation and form with strong acids homogeneous colored solutions which contain the triarylcarbonium ions. The investigation results of the hydrogen exchange of triarylcarbinols with anhydrous  $D_2SO_4$  at  $20^\circ$  are given in table 2. It was found that no hydrogen exchange takes place there. The cause for it might be the delocalization of the positive charge:



Under the same conditions under which benzene itself and its homologues readily exchange hydrogen, no exchange of the hydrogen atoms directly combined with the benzene nucleus was observed in the substances investigated. This might be due to the fact that, as a consequence of the positive charge

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of carbonium ions, they become inactive with respect to the reaction of the electrophilic substitution, as represented by the hydrogen exchange with acids (Ref 3). Apparently, on dissolution of the triarylcarbinols in anhydrous sulphuric acid no sulphonation takes place for the same reason. There are 2 tables and 3 references, 1 of which is Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR  
(Institute of Elemental Organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: July 6, 1957

Card 3/3



5(4)

AUTHORS: Vol'pin, M. Ye., Koresnikov, Yu. D., SOV/62-59-3-34/37  
Kursanov, D. H.

TITLE: Diphenyl Cyclopropanone - Three-membered Analogue of Tropone  
(Difeniltsiklopropanon - trekhchlennyy analog tropona)

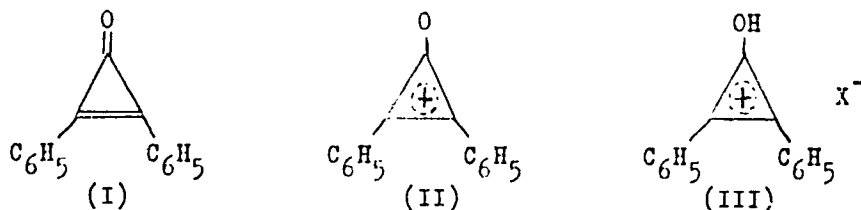
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,  
1959, Nr 3, p 560 (USSR)

ABSTRACT: In this letter to the editor the authors write: We obtained  
diphenyl cyclopropanone (I) (melting point  $121^{\circ}$ ,  
 $\lambda_{\max}$  339 and 291  $\mu$ ; computed for  $C_{15}H_{10}O$ : C 87.36 %, H 4.88 %,  $M = 206$ ). This is the first unsaturated 3-membered ketone to  
be described. In spite of the considerable angular tension in  
the cycle (I) is a stable substance. It forms 2,4-dinitro  
phenyl-hydrazone (melting point  $248-249^{\circ}$ ). In the hydration in  
alcohol over platinum black it absorbs 2 mol  $H_2$ . Two intense  
absorption bands within the range of 1,600 and 1,850  $cm^{-1}$  may  
be observed in the infrared spectrum.

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Diphenyl Cyclopropenone - Three-membered Analogue  
of Tropone

SOV/62-59-3-34/37



If HBr is introduced into the benzene solution of (I) bromide forms (in form of a monohydrate, melting point 148.5-149.0°; per cents computed for C<sub>15</sub>H<sub>13</sub>O<sub>2</sub>Br: C 59.03, H 4.30, Br 26.19;

% found: C 58.87, H 4.37, Br 25.89) from which the initial ketone may be regenerated by the action with weak bases.

Similar salts form with HCl and HJ. The salt-forming properties of (I) as well as its anomalously high dipole moment 5.08 D (it was determined by Ya. K. Syrkin and A. N. Shidlovskaya) are due to the tendency of the cyclopropenone ring towards the formation of a stable aromatic system of cyclopropenyl (II).

By the action of acids (I) is transformed into cation salts of diphenyl oxycyclopropenyl (III). Thus, cyclopropenone

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Diphenyl Cyclopropenone - Three-membered Analogue  
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derivatives are analogues of tropone which has the tendency to form the 7-membered aromatic system of tropyli. (I) was obtained by the action of dibromo carbene (from bromoform and tertiary potassium butylate) on diphenyl acetylene with subsequent hydrolysis. This reaction is the first case of an interaction between dihalogen carbenes and compounds containing a triple bond. The applicability of this reaction in the production of other cyclopropenones will be further investigated.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR  
(Institute of Elemental Organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: January 9, 1959

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5(4)

AUTHORS:

Vol'pin, M. Ye., Zhdanova, K. I., SOV/62-59-4-37/42  
Kursanov, D. N., Setkina, V. N., Shatenshteyn, A. I.

TITLE:

On the Interaction of Tropilium Salts With Electrophilic Reagents (O vzaimodeystvii soley tropiliya s elektrofil'nymi reagentami)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 4, pp 754-755 (USSR)

ABSTRACT:

This is a brief communication on the investigation of the deuterium exchange of tropilium salt in anhydrous  $D_2SO_4$ .

It was found that at room temperature the tropilium ion does not take part in the reaction of the deuterium exchange even in the course of 168 hours. Thereafter the deuterium exchange was investigated under aggravated conditions, in liquid DBr in the presence of  $AlBr_3$ . It was found that tropilium bromide does practically not exchange the deuterium even under aggravated conditions, with  $AlBr_3$  excess. (The exchange amounts to no more than 0.9 % in the course of 94 hours). The experiments showed a strong restraint of the electrophilic attack in tropilium salts. In this respect tropilium turned out to

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On the Interaction of Tropilium Salts With Electrophilic Reagents

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be considerably more inactive than benzene and even unsaturated hydrocarbons. The cause of such a difficult course of the electrophilic substitution in the tropilium ion might be that all carbon atoms of the tropilium ring have a positive charge and the system has an electron deficit. This is in accordance with the general conception of the effect of the charge on the deuterium exchange (Ref 5). It can be expected that also other electrophilic reactions will be as little characteristic of the tropilium ion and as difficult as the deuterium exchange. There are 7 references, 4 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences, USSR). Fiziko-khimicheskiy institut im. Karpova (Physico-chemical Institute imeni Karpov)

SUBMITTED: September 7, 1958

Card 2/2

5(4)

AUTHORS:

Setkina, V. N., Kursanov, D. N.,  
Bykova, Ye. V.

SOV/62-59-4-40/42

TITLE:

On the Mobility of Hydrogen Atoms in Tertiary Alkylchlorides  
in the Presence of Lewis Acids (O podvizhnosti atomov vodo-  
roda v tretichnykh alkilkhloridakh v prisutstvii l'yuisovskikh  
kislot)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,  
1959, Nr 4, p 758 (USSR)

ABSTRACT:

In this letter to the editor the authors write: "We discovered  
that hydrogen atoms acquire proton mobility in tertiary  
alkylchlorides in the presence of salts of coordination-un-  
saturated metals belonging to the Lewis acids. Tertiary  
butyl chloride, e.g., which does practically not exchange  
hydrogen with acetic acid anhydride enriched with deuterium  
easily exchanges hydrogen atoms for deuterium in the same  
medium at low temperatures in the presence of  $\text{FeCl}_3$ ,  $\text{SbCl}_5$ ,  
 $\text{SnCl}_4$ ,  $\text{ZnCl}_2$ ,  $\text{HgCl}_2$ , etc. The investigation of the hydrogen  
exchange kinetics of tertiary alkyl chlorides showed that  
the exchange rate depends mainly on the nature of the metal.

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On the Mobility of Hydrogen Atoms in Tertiary  
Alkylchlorides in the Presence of Lewis Acids

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The lyusic acids can be arranged in the following order according to their effect on the hydrogen exchange rate:  $\text{FeCl}_3 \approx \text{SbCl}_5 > \text{SnCl}_4 > \text{ZnCl}_2 > \text{HgCl}_2$ . This order is similar to that in which their catalytic activity in the reactions of the type of the Friedel-Crafts reactions decreases. We presume that the reason for the described effect of Lewis acids is that they promote the heterolysis of the carbon-chlorine bond and that the hydrogen exchange in these cases is connected with the carbonium ion formation."

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR  
(Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: January 10, 1959

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5(3)

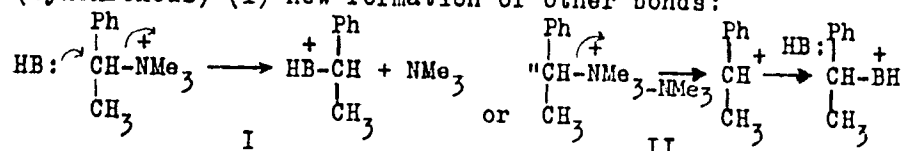
SOV/62-59-8-17/42

AUTHORS: Kursanov, D. N., Vitt, S. V.

TITLE: Mechanism of the Alkylation by Means of the  $\alpha$ -Phenethylammonium-substituted Cation

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 8, pp 1445-1452 (USSR)

ABSTRACT: In the present paper the results of a previous investigation (Ref 1) on the alkylation mechanism of bases of various basicities (alcohols, phenols, and amines) with the optically active N-trimethyl- $\alpha$ -phenethylammonium chloride are investigated. In this type of reaction either a fracture of a few or more bonds, or a temporary existence of free, kinetically independent particles results (ions or radicals): asynchronous reaction (II); or a fracture and simultaneous (synchronous) (I) new formation of other bonds:



The alkylation of the alcohols, phenols, and amines takes place in such a way as to permit the formation of a new bond of the carbon atom of the alkylating group in the place of the highest

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SOV/62-59-B-17/42

Mechanism of the Alkylation by Means of the  $\alpha$ -Phenethylammonium-substituted Cation

electron density of the substance which is to be alkylated ( $R=Ph-CH-CH_3$ ). In the case of alcohols racemic phenylethyl-ether is formed as an intermediary product; the reaction process is asynchronous. In the case of phenols (resorcin, phloro-glycine) a carbonium ion is formed in the intermediate stage (Kursanov, Setkina, Ref 12). This reaction is also asynchronous. The alkylation of the amines investigated (piperidine and morpholine) was synchronous. The alkylation of the phenylethyl-ammonium molecules for which a cation is substituted can be synchronous or asynchronous. The reaction is affected only by the basicity of the group which is to be substituted. Stronger basic groups such as amines have a synchronous alkylation, weakly basic groups, such as alcohols, and phenols, an asynchronous one. The methods of alkylation are described in the experimental part. There are 1 table and 17 references, 8 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR  
(Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: November 23, 1957

Card 2/2

5(3)

AUTHORS:

Kudryavtsev, R. V., Kursanov, D. N., Andrianov, K. A.

SOV/79-29-5-20/75

TITLE:

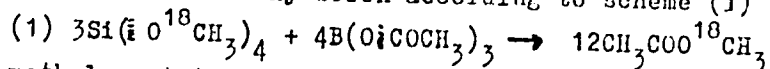
Investigation of the Reaction Mechanism of the Formation of Polyorganoboron-Siloxanes by Means of the Heavy Oxygen Isotope  
(Izucheniye mekhanizma reaktsii obrazovaniya poliorganoborosiloksanov s pomoshch'yu tyazhelogo izotopa kisloroda)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 5,  
pp 1497 - 1499 (USSR)

ABSTRACT:

In the present paper the breaking of the chains was investigated, that takes place during the formation of polyorganoboron-siloxanes. For this purpose trimethyl borate and tetramethoxy-silane with a higher concentration of the heavy oxygen isotope  $O^{18}$  (excess of  $O^{18}$  0.40 at%) were prepared. By interaction of tetramethoxy-silane and triacetoxo-boron according to scheme (1)

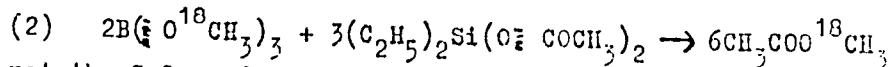


methyl acetate was obtained. It contained the total excess- $O^{18}$ . Accordingly, a breaking of the Si-O and O-C-bonds takes place there. The O-C-bonds in tetramethoxy-silane and B-O-bonds in

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Investigation of the Reaction Mechanism of the Formation of Polyorganoboron-Siloxanes by Means of the Heavy Oxygen Isotope

triacetoxy-boron are maintained. During the reaction of trimethylborate with diethyl-diacetoxy-silane according to scheme (2)



not the C-O- and Si-O-bonds are broken, as expected, but the B-O- and O-C-bonds. Possibly both the interaction of tetramethoxy-silane with triacetoxy-boron and the interaction of trimethyl borate with diethyl-acetoxy-silane proceeds according to cyclic mechanisms. The reaction, however, can practically not be carried out in absolutely anhydrous conditions. Traces of water in the components or in the reaction medium cause a hydrolysis of one of the initial components. Methyl alcohol

$CH_3O^{18}H$  or acetic acid is separated which causes either an alcoholysis (Ref 4) or acidolysis of the other initial components and the formation of methyl acetate. Thus the processes covered by equations (1) and (2) can contain several groups of reactions. All these reactions have one common feature: in all cases the

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of Polyorganoboron-Siloxanes by Means of the Heavy Oxygen Isotope

$O^{18}-CH_3$ -bond is maintained. The formation of  $CH_3COO^{18}CH_3$  is accompanied on one hand by the rupture of the  $B-O^{18}CH_3$ -or the  $Si-O^{18}CH_3$ -bond and on the other hand by the rupture of the  $SiO-COCH_3$ - or  $BO-COCH_3$ -bond. There are 7 references, 4 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR  
(Institute of Elemental Organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: March 21, 1958

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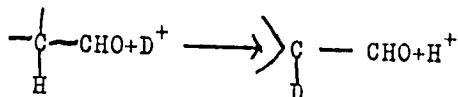
5(3)

AUTHORS: Vol'pin, M. Ye, Akhrem, I. S., Kursanov, D. N. SOV/79-29-9-10/76

TITLE: Reaction of Tropylium Salts With Aldehydes

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 9,  
pp 2855 - 2857 (USSR)

ABSTRACT: The present paper deals with the investigation of the reaction of tropylium salts with aldehydes, basing on the papers quoted by references 1,2. Owing to the mobility of  $\alpha$ -hydrogen atoms of aldehydes, hydrogen is readily replaced by deuterium or bromine in the latter (Ref 3). Various condensations are made possible thereby:

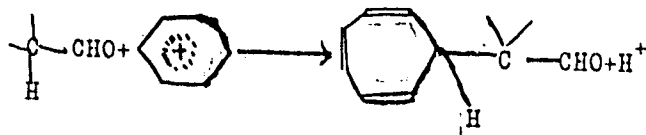


The authors found the cation of tropylium to react likewise with aldehydes. Already at room temperature (but more rapidly and in better yields at higher temperatures) one of the  $\alpha$ -hydrogen atoms of aldehyde is replaced by the cycloheptatrienyl residue:

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This course is followed by the reaction of tropylium bromide with acetic, propionic, isobutyric acid aldehyde, which contain three, two or one  $\alpha$ -hydrogen atom, respectively. Mono-substituted aldehydes (I), (II), (III) were obtained in all cases. Tropylium salts react likewise with isovaleraldehyde and other aldehydes, whereas benzaldehyde, which has no  $\alpha$ -hydrogen atoms, does not enter reaction with the above salts even not with longer heating. The structure of cycloheptatrienyl acetic and  $\alpha$ -cycloheptatrienyl isobutyric acid aldehyde was proven by the identity with aldehydes forming in the addition of tropylium salts on the corresponding vinyl ethers (Ref 4) (Scheme 3). The frequency, typical of the carbonyl group, in the infrared spectra of the aldehydes obtained shows that there is no conjugation of the C=O group with the C=C double bonds occurring in them. Thus, tropylium salts

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were shown to react (under no rigorous conditions) with aldehydes containing  $\alpha$ -hydrogens, under the formation of a new C—C bond. There are 4 references, 3 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences, USSR)

SUBMITTED: August 22, 1958

Card 3/3

5(3)

AUTHORS: Vol'pin, M. Ye.; Kursanov, D. M., SOV/20-126-4-25/62  
Corresponding Member AS USSR

TITLE: The Effect of Hydrogen Peroxide on Tropilium Salts (Deystviye perekisi vodoroda na soli tropiliya). A New Reaction Involving a Narrowing of a Seven-member Cycle (Novaya reaktsiya suzheniya semichlennogo tsikla)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 4, pp 780-783 (USSR)

ABSTRACT: Several examples are known of rearrangements of tropon and tropolon derivatives under the influence of cationic reagents (Ref 1). Benzene derivatives develop, containing the same number of carbon atoms as the original compound. Tropilium salts are subject to an analogous change. They are transformed into benzaldehyde under the influence of oxidizers (Refs 2, 3). The authors found out however, that the reciprocal action of tropilium salts and hydrogen peroxide involve a narrowing of the seven-member cycle, developing in another direction than described above. If equimolecular amounts of the two mentioned substances are mixed in a hydrous solution, a quick exothermal reaction develops. Its main products are: benzene, CO, formic acid and hydrogen bromide (Table 1). Furthermore small amounts of benzaldehyde and phenol develop.

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## The Effect of Hydrogen Peroxide on Tropilium Salts. A New Reaction Involving a Narrowing of a Seven-member Cycle

Thus the process on the whole takes place in two directions (see scheme). The authors studied the kinetics of the first two reactions (where CO develops). This reaction taking place with great velocity, follows an equation of second order. A greater increase in the acidity of the medium slows it down, but slightly. The apparent activation energy between 20 and 50° is much lower than in typically organic reactions. The mentioned reaction can hardly be called a radical one. From the results achieved one may draw the conclusion that in the first bimolecular phases of the reaction, a reciprocal action of the tropilium ion and  $H_2O_2$  takes place, and an inconstant hydrogen peroxide develops (I). It is the tropilium ion which takes part in this reaction, and not its dissociated salt. It is possible, however, that (I) either decomposes with an immediate development of reaction products or that it first changes into a cation (II). The latter first splits into benzene and  $HCO^+$  cation. One could also believe that the reaction passes an intermediate state where tropon is produced. Tropon however, does not decompose into benzene and

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 The Effect of Hydrogen Peroxide on Tropilium Salts. A New Reaction Involving  
 a Narrowing of a Seven-member Cycle

CO. Neither is it possible that the reaction passes an intermediate state of benzaldehyde. Thus the reaction of the narrowing of the cycle studied here, differs from analogous reactions in so far, as it takes place under the synchronous splitting-up of two carbon linkages, at the same time developing a non-substituted benzene cycle. In this regard it is possible to compare it to the reactions of the 1,4-elimination of some bicyclic systems (Ref 5) (see scheme). There are 1 figure, 1 table, and 5 references, 2 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh sovedineniy Akademii nauk  
 SSSR  
 (Institute of Elemental Organic Compounds of the Academy of  
 Sciences, USSR)

SUBMITTED: March 24, 1959

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KURSAWAY, D.R.

1.1009

**AUTHORS:** Kuznetsov, A. I., et al.  
T. L. Volyn, M. S. et al.  
**TITLE:** Crystal Structure of Triethylamine  
**PERIODICAL:** Izvestiya Akademiya Nauk SSSR, Seriya Khim. Nauk, 1960, No. 1, pp. 1-10 (1960)  
**ABSTRACT:** X-ray diffraction study of the structure of triethylamine perchlorate and triethylamine sulfate. The method of three-dimensional sectioning was used. The following data were obtained:

	Triethylamine perchlorate	Triethylamine sulfate
$a$ (Å)	10.110	10.110
$b$ (Å)	10.110	10.110
$c$ (Å)	10.110	10.110
$\beta$ (deg)	90.0	90.0
$\gamma$ (deg)	90.0	90.0
$\alpha$ (deg)	90.0	90.0
$\rho$ (g/cm <sup>3</sup> )	1.10	1.10
$M$	174.0	174.0
$Z$	4	4

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**ASSOCIATION:** Institute of Element-Organic Compounds, Academy of Sciences USSR (Institut elementnoorganicheskikh soedineniy Akademii Nauk SSSR)  
**SUBMITTED:** April 10, 1960

Card 2/5

VOL'PIN, M.Ye.; PARNES, Z.N.; KURSANOV, D.N.

Hydride transfer in ditropyl ether, resulting in the formation of  
tropone and tropyliene. Izv.AN SSSR Otd.khim.nauk no.5:950  
My '60. (MIRA 13:6)

1. Institut elementoorganicheskikh soyedineniy Akademii nauk  
SSSR.  
(Cycloheptatrienone) (Tropylium compounds) (Tropyliene)

5.3700

11 53  
22 09  
12 36

86416  
S/062/60/000/008/032/033/XX  
B013/B055

AUTHORS:

Zakharkin, L. I., Gavrilenko, V. V., Parnes, Z. N., and Kursanov, D. N.

TITLE:

On the Mode of Addition of Diisobutyl Aluminum Hydride to Dimethyl Fulvene

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 8, pp. 1518-1520

TEXT: This is a brief communication on the reaction between dimethyl fulvene and diisobutyl aluminum hydride. In this reaction,  $\text{HALR}_2$  adds to fulvene. Hydrolysis of the organo-aluminum compound leads to isopropyl cyclopentadiene, isobutane and aluminum hydroxide. From the product formed, no conclusions concerning the course of  $\text{HALR}_2$  addition can be drawn. The tracer method was applied in the present study. The organo-aluminum compound was hydrolyzed with deuterium oxide and the resulting deuterio isopropyl cyclopentadiene was then subjected to a hydrogen exchange with  $\text{C}_2\text{H}_5\text{OH}$  in the presence of  $\text{C}_2\text{H}_5\text{ONa}$ . The reaction conditions were the

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On the Mode of Addition of Diisobutyl  
Aluminum Hydride to Dimethyl Fulvene

86416

S/062/60/000/008/032/033/XX  
B013/B055

same as in the hydrogen exchange of isopropyl cyclopentadiene with  $C_2H_5OD$ . These experiments show that the addition of diisobutyl aluminum hydride to the exocyclic double bond of dimethyl fulvene proceeds in such a manner, that  $AlR_2$  adds to the cyclopentadiene ring and hydrogen to the isopropyl group. To investigate the conditions of hydrogen exchange, the authors undertook the preliminary experiments summarized in Table 1. From these data it is seen that the experimental conditions of the fourth experiment were optimal: 16 ml alcohol, 0.05 g Na, 1.60 g hydrocarbon, and a reaction time of 3 h. These conditions were then applied for investigating the exchange reaction between diisopropyl cyclopentadiene and  $C_2H_5OH$ . The hydrocarbon separated after the exchange was re-entered into the reaction. The experimental data show that at least 98% of the deuterium was bound to the ring. There are 2 tables and 7 references: 2 Soviet, 3 US, and 2 German.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk  
SSSR (Institute of Elemental Organic Compounds of the  
Academy of Sciences USSR)

SUBMITTED: January 16, 1960

Card 2/2

84863

53700 2209,1308,1153

S/062/60/000/010/017/018  
B015/B064

AUTHORS: Vol'pin, M. Ye., and Kursanov, D. N.

TITLE: The Germanium Analog of Carbenes

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 10, p. 1903

TEXT: In a previous paper (Ref.1), the authors jointly with Yu. D. Koreshkov investigated compounds of divalent carbon. Proceeding from the fact that an analogy exists between the electron structure of the derivatives of divalent germanium and divalent carbon, the authors studied the reaction between  $\text{Ge}^{2+}$  and substances with multiple carbon-carbon bonds, i.e., tolanes. By heating  $\text{GeI}_2$  with tolane, a stable addition product, melting point at  $300.5-303^\circ\text{C}$ , was obtained, the gross formula is given as  $\text{C}_{14}\text{H}_{10}\text{GeI}_2$ . The most probable structural formula is

X

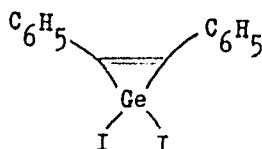
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84863

The Germanium Analog of Carbenes

S/062/60/000/010/017/018  
B015/B064



This substance is soluble in benzene, carbon tetrachloride, and alcohol, and insoluble in ether, heptane, and water. With silver nitrate in an alcoholic solution, silver iodide rapidly precipitates. Thus, it may be assumed that the addition of  $\text{GeI}_2$  to the triple bond of tolane proceeds analogously to the addition of carbene dihalides. There is 1 Soviet reference. ✓

ASSOCIATION: Institut elementoorganicheskikh sovedinoniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences USSR)

SUBMITTED: July 19, 1960

Card 2/2



5.3400

AUTHORS:

Vol'pin, M. E., Akhrem, I. S., Kuznetsov, D. H.

TITLE:

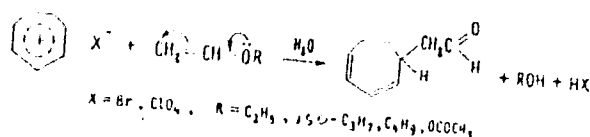
The Additions of Tropylium Salts to Vinyl Ethers

PERIODICAL:

Zhurnal obshchey khimii, 1966, Vol. 30, No. 1, pp 159-163 (USSR)

ABSTRACT:

Vinyl ethers vigorously react with tropylium salts.



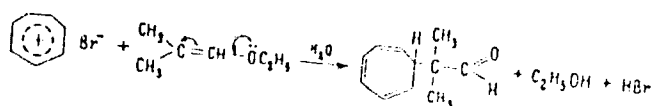
Tropylium salts react with vinyl ethyl-, vinyl isopropyl-, and vinyl n-butyl ethers in aqueous or in aqueous-alcohol, and only one product, cycloheptatrienylacetaldehyde, is formed. Tropylium bromide reacts similarly with  $\beta, \beta$ -dimethylvinyl ethyl ether.

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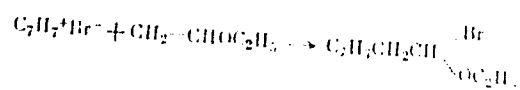
The Additions of Tropylium Salts to  
Vinyl Ethers

77373

SOV/79-30-1-34/78



Tropylium bromide with vinyl ethyl ether in anhydrous nitromethane forms a brominated product which could not be isolated, and is probably an  $\alpha$ -bromoether.

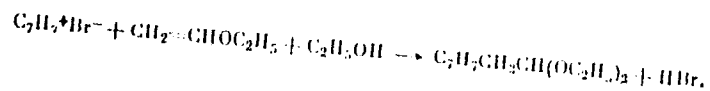


Card 2/5

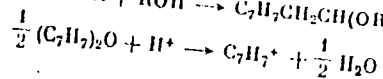
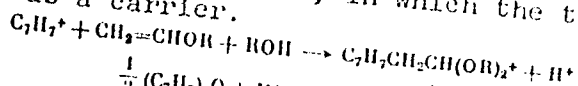
Acetal and acid are formed by the above reaction in anhydrous alcohol. The acid formed complicates the isolation of the acetal.

The Additions of Tropylium Salts to  
Vinyl Ethers

77373  
SOV/79-30-1-34/78



An attempt was made to prepare acetals by the reaction of vinyl ethers with ditropyl ether, but this reaction does not take place. The addition of tropylium salts (or an acid) (even in catalytic amounts) initiates a vigorous reaction. Ditropyl ether and vinyl ethyl ether in anhydrous alcohol form diethylacetal of cycloheptatrienylacetaldehyde, in good yield. The same reaction with vinyl butyl ether in anhydrous n-butyl alcohol yields di(n-butyl)acetal of cycloheptatrienylacetaldehyde. Probably an ionic chain reaction takes place in all cases, in which the tropylium cation serves as a carrier.



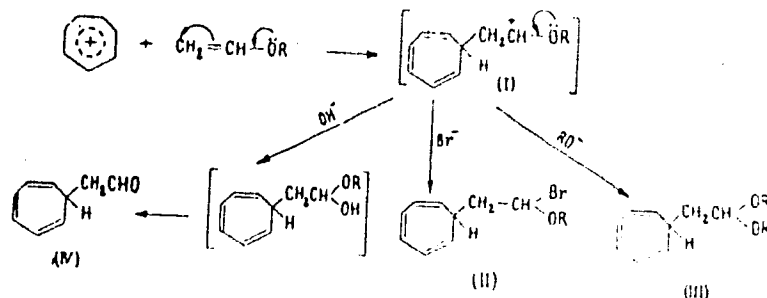
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The Additions of Tropylium Salts to  
Vinyl Ethers

77373

SOV/79-30-1-34/78

It can be assumed that the formation of a carbonium ion of type (I) is an intermediate stage of reaction, and that the above ion in nonhydroxylic solvents is converted into bromoether (II); in alcohol, into acetal (III); and in water, into aldehyde (IV).



Cycloheptatrienylacetaldehyde was obtained in 58% yield, bp  $62^\circ/2$  mm,  $n_D^{20}$  1.5340,  $d_4^{20}$  1.0204; cycloheptatrienyl-iso-butyric aldehyde, in 8.6% yield, bp  $76-80^\circ/3$  mm,

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The Additions of Tropylium Salts to  
Vinyl Ethers

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$n_D^{20}$  1.5201; diethyl acetal of cycloheptatrienylacetal-  
dehyde, in 72% bp  $102^\circ/5$  mm,  $n_D^{20}$  1.4876; dibutyl acetal  
of cycloheptatrienylacetaldehyde, in 75%, bp  $130^\circ/3$  mm,  
 $n_D^{20}$  1.4805,  $d_4^{20}$  0.8188; diisopropyl acetal of cyclo-  
heptatrienylacetaldehyde, in 75.6%, bp  $96-100^\circ/3$  mm,  
 $n_D^{20}$  1.4856. There are 4 references, 3 Soviet, 1 U.S.  
The U.S. reference is: W. E. Doering, L. H. Knox, J. Am.  
Chem. Soc., 76, 3203 (1954); 79, 352 (1957).

SUBMITTED:

January 5, 1959

Card 5/5

S/079/60/030/04/28/080  
B001/B016

AUTHORS: Vol'pin, M. Ye., Akhrem, I. S., Kursanov, D. N.

TITLE: Reaction of Tropylium Salts With Compounds Having a Mobile Hydrogen

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 4, pp. 1187-1190

TEXT: In continuation of their previous papers (Refs. 1, 2), the authors investigated in the present paper the reaction of tropylium bromide with derivatives of carboxylic acids and with ketones. The aliphatic mono-carboxylic acids (acetic, propionic, and butyric acid) and their esters (methyl-, ethyl acetate, ethyl propionate) were found not to react with tropylium salts even on prolonged heating. It is different with compounds in which the mobility of the  $\alpha$ -hydrogen atoms is increased by introducing activating substituents. Malonic acid, acetoacetic ester, cyanoacetic ester, and nitro-acetic ester react immediately with the above salts, already at room temperature. In all cases, the corresponding substitution products are obtained, with the cycloheptatrienyl radical being substituted for one hydrogen atom (Scheme 1). Ketones with a

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## Reaction of Tropylium Salts With Compounds Having a Mobile Hydrogen

S/079/60/030/04/28/080  
B001/B016

carbonyl group without activating substituents (acetone, acetophenone) enter into reaction with tropylium under far more rigorous conditions. On prolonged heating of the ketones with tropylium bromide, the substitution of the  $\alpha$ -hydrogen atom takes place under formation of a monosubstituted product (Scheme 2). The introduction of a second carbonyl group considerably activates the molecule. Thus, acetyl acetone reacts immediately with tropylium salts, already in the cold. When treating tropylium bromide dissolved in water, the dicycloheptatrienyl ester is known to be formed (Ref. 3). The C-O bond in this compound, contrary to the common ethers, is very unstable, and readily breaks when treated with mineral acids to give tropylium salts:

$(C_7H_7)_2O + 2HBr \longrightarrow 2C_7H_7^+Br^- + H_2O$ . The ditropylium ether was found to react with acetoacetic ester on heating under formation of the same product as in the reaction of tropylium bromide with acetoacetic ester (Scheme 3). The tropylation reaction may generally be applied to the synthesis of different cycloheptatrienyl derivatives. There are 3 references, 2 of which are Soviet.

Card 2/3

Reaction of Tropylium Salts With Com-  
pounds Having a Mobile Hydrogen

S/079/60/030/04/28/080  
B001/B016

ASSOCIATION: Moskovskiy institut elementoorganicheskikh soedineniy  
(Moscow Institute of Elemental-organic Compounds)

SUBMITTED: April 27, 1959

Card 3/3



KURSANOV, D.N.; VOL'PIN, M.Ye.; KORESHKOV, Yu.D.

Interaction of dihalo carbenes with tolan. Synthesis of diphenylcyclopropenone and of diphenylhydroxycyclopropenyl salts. Zhur. ob. khim. 30 no.9:2877-2884 S '60. (MIRA 13:9)

1. Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR. (Cyclopropenone)

81403

S/020/60/132/06/26/068  
B011/B126

5.3100

AUTHORS:

Parnes, Z. N., Zdanovich, V. I., Kursanov, D. N.,  
Corresponding Member AS USSR

TITLE:

The Transfer of the Action of Substituents by Different  
Conjugate Systems

PERIODICAL:

Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6,  
pp. 1322 - 1324

TEXT: If one compares the reaction constants  $q$  in one and the same re-  
action under the same conditions for molecules which have different  
systems of conjugate bonds, the effectiveness of the transfer of the  
action of the substituents through these systems can be estimated. The  
authors studied this influence on the reaction rate of hydrogen exchange  
with para-substituted derivatives of benzalacetone (trans-) (II) and with  
the para-substituted 4'-acetyldiphenyl derivatives (III). For this reason,  
the rate constants of the hydrogen exchange reaction at 20°C were  
determined. These were calculated on the basis of the equation of the  
first order, for benzalacetone, p-dimethylaminobenzalacetone, p-methoxy-

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The Transfer of the Action of Substituents by  
Different Conjugate Systems

B1403

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B011/B126

benzalacetone, p-nitrobenzalacetone, p-chlorobenzalacetone, p-bromobenzalacetone, (see Table 1), 4'-acetyldiphenyl, 4-nitro-4'-acetyldiphenyl, 4-bromo-4'-acetyldiphenyl, 4-methoxy-4'-acetyldiphenyl, and 4-chloro-4'-acetyldiphenyl (Table 1). In both cases, the reaction was carried out under the same conditions in absolute ethanol, which contained deuterium in the hydroxyl group, and with sodium ethylate as catalyst. It was established that the dependence of the logarithm of the rate constant of the hydrogen exchange reaction with the para-substituted derivatives of benzalacetone (Fig. 1) and of 4'-acetyldiphenyl (Fig. 1), on the constants of  $\sigma$ -para-substituents is linear. Thus the Gammett equation is observed here in both cases. The authors calculated the values of the constant  $\rho$  for all the systems analyzed here. They have proved to be equal: for the acetophenone system (I) = 1.6; for the benzalacetone system (II) = 0.8; for the 4'-acetyldiphenyl system (III) = 0.4. In the ketones examined, the substituent is separated from the reaction center by various systems of conjugate bonds, namely: a benzene ring, a double bond which is conjugated with the benzene ring, and finally a diphenyl system. The authors established that the conclusion may be drawn from the comparison of the relative  $\rho$  obtained for the above reaction, that (according to Ref. 3)

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The Transfer of the Action of Substituents by  
Different Conjugate Systems

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B011/B126

merely 0.50 of the electron effect of the substituent is transferred on the hydrogen exchange reaction by the double bond conjugated with the benzene ring. In comparison with the benzene ring, the diphenyl system transfers only 0.25 of this effect. This is valid on the assumption that the steric factors of the molecules of the para-substituted derivatives of acetophenone, benzalacetone, and 4'-acetyldiphenyl in this reaction are equal. The authors thank A. I. Shatenshteyn, Professor, Ya. M. Varshavskiy, Ye. A. Yakovleva, and O. P. Gey for help in devising the method used. There are 2 figures, 1 table, and 5 references: 2 Soviet and 1 US. X

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk  
SSSR (Institute for Elemental-organic Compounds of the  
Academy of Sciences, USSR)

SUBMITTED: March 15, 1960

Card 3/3

ZAKHARKIN, L.I.; GAVRILENKO, V.V.; ZARNES, Z.N.; KURSANOV, D.N.

Order of diisobutylaluminum hydride addition to dimethylfulvene.  
Izv.AN SSSR Otd.khim.nauk no.8:1518-1520 Ag '60. (MIRA 15:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Aluminum organic compounds) (Fulvene)

SETKINA, V.N.; KURSANOV, D.N.

Isotopic exchange reactions involving the hydrogen of halo alkyls. Report No.1: Hydrogen exchange with tert. butyl chloride in glacial acetic acid in the presence of aprotic acids. Izv. AN SSSR.Otd. khim. nauk no.11:2032-2036 N '60. (MIRA 13:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Deuterium) (Butyl chloride)

KURSAPOV, D.M.; SETAIFA, V.M.

Proton mobility of hydrogen ions in acetyl chloride. Dokl.  
AN SSSR 137 no. 1:96-98 Ir-Ap '61. (MIRA 14:2)

1. Institut elementoorganicheskikh soedineniy Akademii nauk  
SSSR. 2. Chlen-korrespondent AN SSSR (for Kursapov).  
(Acetyl chloride) (Protons)

KURSANOV, D.N.; BARAETSKAYA, N.K.; PARIES, Z.N.

Reactions of cyclopentadienylides. Izv. AN SSSR. Otd. Khim.  
nauk no. 1:140-144 Ja '61. (MIRA 14:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Cyclopentadiene)



SETKINA, V.N.; KURSANOV, D.N.

Ionization of tert-alkyl trifluoroacetates in anhydrous trifluoroacetic acid. Izv. AN SSSR. Otd. khim. nauk no.2:378 F '61.

(MIRA 14:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Acetic acid)

KURSANOV, D.N.; BYKOVA, Ye.V.; SETKINA, V.N.

Isotopic exchange reactions involving a hydrogen of alkyl halides.  
Report No.2: Hydrogen exchange of tertiary alkyl chlorides in  
anhydrous acetic acid and in the presence of aprotic acids. Izv.  
AN SSSR Otd.khim.nauk no.4:664-667 Ap '61. (ML 4:4)

1. Institut elementoorganicheskikh soedineniy AN SSSR.  
(Deuterium) (Alkyl chlorides)

SETKINA, V.N.; KURSANOV, D.N.

Isotopic exchange reactions involving a hydrogen of alkyl halides.  
Report No. 3: Role of aprotic acids in hydrogen exchange reactions  
of alkyl chlorides. Izv.AN SSSR Otd.khim.nauk no.4:668-672 Ap '61.  
(MIRA 14:4)

1. Institut elementoorganicheskikh soedineniy AN SSSR,  
(Acids, Organic) (Alkyl chlorides) (Deuterium)

BYKOVA, Ye.V.; SETKINA, A.N.; KURSAKOV, D.N.

Isotopic exchange reactions involving a hydrogen or alkyl halides.  
Report No.4: Hydrogen exchange of tertiary alkyl bromides in  
anhydrous acetic acid in the presence of aprotic acids. Izv.  
AN SSSR. Otd.khim.nauk no.7:1303-1306 J1 '61. (MIRA 14:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Alkyl bromides) (Deuterium)

SETKINA, V.N.; KURSANOV, D.N.

Isotopic exchange of hydrogen in primary and secondary alkyl chlorides.  
Dokl. AN SSSR 136 no.6:1345-1348 F '61. (MIRA 14:3)

1. Institut elementoorganicheskikh soedineniy AN SSSR. 2. Chlen-  
korrespondent AN SSSR (for Kursanov).  
(Alkyl chlorides)  
(Deuterium)

VOL'PIN, M.Ye.; KORESHKOV, Yu.D.; KURSANOV, D.N.

Silicon analog of carbenes and the synthesis of a silicon-containing three-membered heterocycle. Izv. AN SSSR. Otd. khim.nauk no.7:1355-1356 J1 '61. (MIRA 14:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Silicon organic compounds)

KURSANOV, D.N.; BARANETSKAYA, N.k.

Structure of N-benzyl pyridinium  $\gamma$ -cyclopentadienyl<sup>+</sup> salt. Izv. AN SSSR.  
Otd.khim.nauk no.9:1703-1704 S 1. (MIRA 14:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Pyridinium compounds)

KURSANOV, D.N.; PARNES, Z.N.

New data on hydride rearrangement reactions. Usp.khim. 30 no.11:  
1381-1390 N '61. (MIRA 14:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Hydrides)



SETKINA, V.N.; KURSANOV, D.N.; VITT, S.V.; MARTINKOVA, N.S.

Isotopic exchange of hydrogen of primary alkyl chlorides in the presence of aprotic acids. Izv.AN SSSR.Otd.khim.nauk no.11: 2081-2083 N '61. (MIRA 14:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Hydrogen--Isotopes) (Chlorides)

KURSANOV, D.N.; VOL'PIN, M.Ye., doktor khimicheskikh nauk

New nonbenzenoid aromatic systems and the problem of aromaticity.  
Zhur. VKHO 7 no.3:282-290 '62. (MIRA 15:6)

1. Chlen-korrespondent Akademii nauk SSSR (for Kursanov).  
(Aromatic compounds)

SETKINA, V.N.; KURSANOV, D.N.; BYKOVA, Ye.V.

Isotopic exchange of hydrogen in trifluoroacetic acid esters.  
Report No.1: Hydrogen exchange of alkyltrifluoroacetates with  
trifluoroacetic acid. Izv.AN SSSR.Otd.khim.nauk no.8:1367-1372  
Ag '62. (MIRA 15:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Hydrogen--Isotopes) (Acetic acid)

S/062/62/000/011/002/021  
B101/B144

AUTHORS: Nesmeyanov, A. N., Kursanov, D. N., Setkina, V. N.,  
Kislyakova, N. V., and Kochetkova, N. S.

TITLE: Study of hydrogen exchange in nonbenzoidic aromatic systems  
(cenes). Communication 1. Hydrogen exchange of ferrocene,  
and mono- and diacetyl ferrocene, with acids

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh  
nauk, no. 11, 1962, 1932 - 1936

TEXT: An investigation was made of the hydrogen exchange between the  
following, dissolved in benzene: ferrocene, acetyl ferrocene, diacetyl  
ferrocene, or toluene and trifluoro deuterio acetic acid at 25°C, and of  
ferrocene with deuterio sulfuric acid. In acetylated ferrocenes, the  
deuterium added on the acetyl group was removed by 160 - 170 hrs standing  
in 10% alcoholic KOH solution, and the amount of deuterium added on the  
cyclopentadienyl rings was determined from the density of the water ob-  
tained when the compound was burned. The compound : acid : benzene ratio  
was 1 : 3 : 20. Experiments with  $CF_3COOD$  gave the following rate constants

Card 1/2

Study of hydrogen exchange in...

S/062/62/000/C11/002/021  
B101/B144

for the exchange reaction ( $\text{sec}^{-1}$ ): ferrocene  $1.6 \cdot 10^{-4}$ ; acetyl ferrocene  $1.5 \cdot 10^{-7}$ ; diacetyl ferrocene  $7.7 \cdot 10^{-8}$ ; toluene  $3 \cdot 10^{-8}$ . Under the given conditions, benzene did not react with  $\text{CF}_3\text{COOD}$ . A 50% hydrogen exchange between ferrocene and  $\text{D}_2\text{SO}_4$  occurred after 5 min. But no isotopic equilibrium was established because part of the ferrocene oxidizes to ferricinium ion, which does not react with  $\text{D}_2\text{SO}_4$ , as has been shown by special experiments. On the other hand, deuterium phosphoric acid had no oxidizing action; here the exchange proceeded until reaching equilibrium. There are 6 tables.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: March 28, 1962

Card 2/2

AMES, Z. N.; BARANETSKAYA, N. K.; KURSANOV, D. N.

Relation between triethyl oxonium fluoborate and hydride-  
ion donors. Izv. AN SSSR Otd. khim. nauk no. 12:2238-2240  
D '62. (MIRA 16:1)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

(Oxonium compounds) (Hydrides)

VOL'PIN, M.Ye.; KURSANOV, D.N.

Three-membered aromatic heterocycles. Part 1: Theoretical premises.  
Zhur.ob.khim. 32 no.4:1137-1141 Ap '62. (MIRA 15:4)

1. Institut elementoorganicheskikh soyedineniy.  
(Heterocyclic compounds)

VOL'PIN, M.Ye.; KURSAKOV, D.N.

Three-membered aromatic heterocycles. Part 2: Preparation. Carbenes and carbenoids. Zhur.ob.khim. 32 no.4:1142-1146 Ap '62.  
(MIRA 15:4)

1. Institut elementoorganicheskikh soyedineniy.  
(Carbenes) (Heterocyclic compounds)



VOL'PIN, M.Ye.; KURSANOV, D.N.

Three-membered aromatic heterocycles. Part 3: Reaction of a germanium analog of carbenes with tolan. Synthesis of a germanium-containing three-membered ring. Zhur.ob.khim. 32 no.5:1455-1460 My '62. (MIRA 15:5)

1. Institut elementoorganicheskikh soedineniy AN SSSR.  
(Germanium organic compounds) (Heterocyclic compounds)

L 17065-63 EWP(j)/EPF(c)/EWP(q)/EWT(m)/ S/062/63/000/004/014/022  
 BDS AFFTC/ASD Pc-4/Pr-4 RM/WW/JD  
 AUTHOR: Vol'pin, M. Ye., Dulova, V.G., and Kursanov, D.N. 69  
 TITLE: Three-membered heteroaromatic compounds. Report 4. Interaction 68  
 between germanium di-iodide and acetylene, and the synthesis of  
 a three-membered heterocyclic compound and a germanium-containing  
polymer. 27  
 PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk.  
 no. 4, 1963, 727-731  
 TEXT: The purpose of the study was to continue the research on forma-  
 tion of stable three-membered heterocyclic compound formed during the addition  
 of germanium di-iodide on the triple carbon-carbon bond of diphenylacetylene 7  
 and to obtain germanium heterocyclics with a simpler structure not containing  
 the phenyl groups.  $GeI_2$  is added to acetylene at 130-140°, the reaction pro-  
 ceeding analogously to the addition to diphenylacetylene and resulting in the  
 formation of the three-membered heterocyclic 1,1-diiodogermirene (2,2-diido-

Card 1/3

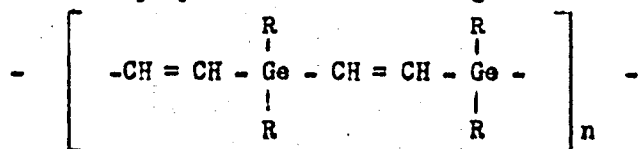
L 17065-63

S/062/63/000/004/014/022

Three-membered heteroaromatic .....

0

2-germaniumcyclopropene). During the reaction of  $\text{GeI}_2$  with acetylene, considerable quantities of polymeric products are obtained in addition to the three-membered cyclic. Infra-red and nuclear magnetic resonance spectra indicated the obtained polymer had the following structure:



where  $\text{R} = \text{I}, \text{CH}_3, \text{ or } \text{C}_6\text{H}_5$ . In structure these polymers are close to the so-called organic semiconductors and can represent great interest from the viewpoint of the character of the interaction of the  $\pi$ -electrons in the polymer chain, since the interaction of  $\pi$ -electrons of double bonds with d-orbits of germanium can contribute to partial delocalization of  $\pi$ -electrons

Card 2/3

L 17065-63

S/062/63/000/004/014/022

Three-membered heteroaromatic .....

in the polymer chain. There are 2 figures. The most important English-language reference reads as follows: K. B. Wiberg, B. J. Nist, J. Amer. Chem. Soc., 83,1226 (1961).

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR  
(Institute of Organo-Elemental Compounds, Academy of Sciences  
USSR)

SUBMITTED: June 9, 1962

Card 3/3

VOL'PIN, M.Ye.; AKHREM, I.S.; TERENT'YEVA, Ye.A.; KURSANOV, D.N.

Mechanism of tropylation reaction. Izv.AN SSSR.Otd.khim.nauk  
no.5:802-808 My '63. (MIRA 16:8)

1. Institut elementoorganicheskikh soedineniy AN SSSR.  
(Tropylium compounds)

SETYINA, V.N.; KURSANOV, D.N.

Hydrogen exchange of saturated hydrocarbons in homogeneous media.  
Report No.1: Exchange of hydrogen atoms between methylcyclohexane and  
deuterium chloride in nitrobenzene solution in the presence of aprotic  
acids. Izv. AN SSSR. Otd.khim.nauk no.6:992-995 Je '63.  
(MIRA 16:7)

1. Institut elementoorganicheskikh soedineniy AN SSSR.  
(Cyclohexane) (Deuterium compounds) (Hydrogen)

VOL'PIN, M.Ye.; STRUCHKOV, Yu.T.; VILKOV, L.V.; MASTRYUKOV, V.S.;  
DULOVA, V.G.; KURSANOV, D.N.

Structure of the products obtained in the reaction of acetylene  
with bivalent derivatives of germanium. Izv. AN SSSR. Ser.  
khim. no.11:2067 N '63. (MIRA 17:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

L 15463-63

EMP(j)/EPF(c)/EWT(m)/BDS ASD Pc-4/Pr-4 RM/NW/MAY

ACCESSION NR: AP3005440

S/0020/63/151/005/1100/1103 68  
67

AUTHORS: Vol'pin, M. Ye.; Dubovitskiy, V. A.; Nogina, O. V.; Kursan-  
ov, D. N. (Corr. member AN SSSR)

TITLE: Combining titanocene (dicyclopentadienyl titanium) with tolane

SOURCE: AN SSSR. Doklady\*, v. 151, no. 5, 1963, 1100-1103

TOPIC TAGS: dicyclopentadienyl titanium ditolane, titanocene,  
dicyclopentadienyl titanium, tolane, diphenylacetylene, 1,2,3,4-  
tetraphenylbutadiene, titanoceneditolane

ABSTRACT: Because of its carbenoid character, dicyclopentadienyl ti-  
tanium was selected for reaction with diphenylacetylene (tolane) in a  
1:2 ratio to form the stable titanoceneditolane. The latter cleaved  
upon brominating to form titanocene dibromide and the dibromide of a  
Ti-free hydrocarbon. Heating, or treatment with aqueous or non-aque-  
ous KOH, gave 1,2,3,4-tetraphenylbutadiene. Orig. art. has: 10  
formulas.

ASSOCIATION: Institute of organometallic compounds, Academy of Sciences, SSSR  
Card 1/21



L 24836-65 EWT(m)/EPP(c)/EWP(j) Pc-4/Pr-4 RM

ACCESSION NR: AP4047409

S/0062/64/000/010/1911/1911

18  
17  
B

AUTHOR: Kursanov, D. N.; Setkina, V. N.; Novikov, Yu. N.

TITLE: Reversible hydride exchange of hydrogen in Si-H bonds of phenylsilanes

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 10, 1964, 1911

TOPIC TAGS: phenylsilane, hydrogen deuterium exchange, isotopic hydrogen exchange, exchange reaction kinetics, nucleophilic reaction

ABSTRACT: The first example of reversible hydride exchange in organosilanes was observed in the reactions of phenylsilanes with  $\text{LiAlD}_4$  in ether solution in which the hydrogen atoms in the Si-H bonds were exchanged for deuterium. The kinetics of the isotopic exchange of hydrogen were studied in reactions of  $\text{LiAlD}_4$  with mono-, di-, and triphenylsilanes; the rates of the hydrogen exchange for these compounds at 30C were  $5.7 \cdot 10^{-5}$ ,  $6 \cdot 10^{-3}$ , and  $2.6 \cdot 10^{-6}$ , respectively. The more rapid exchange rate for the diphenylsilane was explained by the strong electron acceptor nature of the phenyl group in comparison to the Si atom,

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L 24836-65

ACCESSION NR: AP4047409

indicating the nucleophilic nature of this reaction. The slow exchange rate in the triphenylsilane was attributed to steric hindrance. Orig. art. has: no graphics

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR  
(Institute of Organometallic Compounds Academy of Sciences SSSR)

SUBMITTED: 15Jul64

ENCL: 00

SUB CODE: GC

NO REF SOV: 000

OTHER: 000

Card 2/2

KURSANOV, D.N.; TODRES, Z.V., kand.khim.nauk

Important problem in the theory of chemical structure; symposium in  
Moscow. Vest. AN SSSR 34 no.9:129-131 S '64. (MIRA 17:10)

1. Chlen-korrespondent AN SSSR (for Kursanov).

PARNES, Z.N.; MUR, G.D.; KUDRYAVTSEV, R.V.; KURSANOV, D.N.

Interaction of tropylium bromide with tertiary butyl alcohol.  
Dokl. AN SSSR 155 no.6:1371-1374 Ap '64. (MIRA 17:4)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
2. Chlen-korrespondent AN SSSR (for Kursanov).

Byington, George; "Average of 100 miles per hour";  
158 no., 1967-1972. B. 1a.

1. Institut elementarnykh organicheskikh soedineniy AN SSSR, A. G. Goleva  
Korrespondent AN SSSR (Moskva 75).

PARNES, Z.N.; MUR, G.D.; KURSANOV, D.N.

Reaction of tropylium with ethylene oxide. Dokl. AN SSSR. 159  
no.4:857-860 D '64 (MIRA 18:1)

1. Institut elementoorganicheskikh sovedinoniy AN SSSR. 2. Chlen  
korrespondent AN SSSR (for Kursanov).

KURSANOV, D.N.; SETKINA, V.N.; BYKOVA, Ye.V.

Hydrogen exchange of saturated hydrocarbons in homogeneous media.  
Report No.2: Hydrogen exchange of methylcyclohexane in solutions  
of trifluoroacetic and sulfuric acids at different values of the  
acidity function. Izv. AN SSSR Ser. khim. no.2:249-251 '65.

(MIRA 18:2)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

L 46318-65 EWT(m)/RPF(c)/FNP(j) Pc-4/Pr-4 RY

ACCESSION NR: AP5007566

S/0020/65/160/005/1090/1092

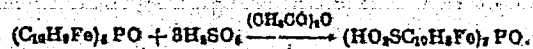
AUTHOR: Nesmeyanov, A. N. (Academician); Kursanov, D. N. (Corresponding member AN SSSR); Vil'chevskaya, V. D.; Kochetkova, N. S.; Setkina, V. N.; Novikov, Yu. N.

TITLE: Reactions of triferrocenylphosphine oxide /

SOURCE: AN SSSR. Doklady, v. 160, no. 5, 1965, 1090-1092

TOPIC TAGS: cyclopentadienyl/metal, ferrocene, iron organic compound, phosphine oxide, organometallic compound

ABSTRACT: Triferrocenylphosphine oxide was sulfonated to produce tris(1-sulfo-ferrocenylene-1')phosphine oxide:



The product readily forms water-soluble salts when acted upon by Na, Ba, Pb and Mn carbonates, and its aqueous solutions are extremely unstable. When acted upon by excess dilute  $\text{H}_2\text{SO}_4$ , triferrocenylphosphine oxide decomposes to form diferrocenylphosphonic acid. This easy detachment of only one ferrocenyl radical is unique.

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L 146318-65

ACCESSION NR: AP5007566

No decomposition was observed on prolonged boiling of triferrocenylphosphine oxide with 50% NaOH. A hydrogen isotope exchange reaction was conducted in trifluoroacetic acid containing 51.4 at. % deuterium, and the kinetics of this exchange were investigated. The rate constants of the hydrogen exchange ( $K_{H.E.}$ ) were calculated to be  $1.6 \times 10^{-7}$ ,  $4.4 \times 10^{-7}$ , and  $12.8 \times 10^{-7} \text{ sec}^{-1}$  respectively. These values point to strong electron-acceptor properties of the phosphine oxide group. IR spectra of triferrocenylphosphine oxide separated after the hydrogen exchange and containing about 50 at. % deuterium showed that most of the deuterium was present in the unsubstituted cyclopentadienyl rings. The authors conclude that the electrophilic substitution reactions, i.e.; sulfonation and hydrogen exchange, take place primarily in the unsubstituted cyclopentadienyl rings of ferrocenylphosphine oxide. The experimental procedure employed is described. Orig. art. has: 1 table.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR  
(Institute of Organometallic Compounds, Academy of Sciences SSSR)

SUBMITTED: 21Jul64

ENCL: 00

SUB CODE: OC

NO REF SOV: 006

OTHER: 004

Card 2/2

KURSANOV, D.N.; GUTKINA, V.N.; BARANOVSKAYA, M.K.; LUKATSKAYA, A.G.  
MATERIKOVA, R.B.

Isotopic exchange of hydrogen atoms in cyclopentadienyl rings  
of cobalticinium compounds. Dokl. AN SSSR 161 no.7.8.7-860 Ap  
'65, (MIRA 12:5)

1..Chlen-korrespondent AN SSSR (for Kurzanov).

L 55127-65 ENT(m)/EPF(c)/T/EMP(j) Pc-L/Pr-L RM  
 ACCESSION NR: AP5012767 UR/0020/65/161/006/1349/1351

AUTHOR: Nesmeyanov, A. N.; Kursanov, D. N. (Corresponding member AN SSSR);  
 Nefedova, M. N.; Setkina, V. N.; Perevalova, E. G.

TITLE: The replacement of a halogen by a proton in halogenoferrocenes

SOURCE: AN SSSR. Doklady, v. 161, no. 6, 1965, 1349-1351

TOPIC TAGS: halogen, ferrocene, deuterium

ABSTRACT: In studying the isotopic exchange of hydrogen in acid media an unexpected reaction of iodoferrocene with the acid was detected. In treating solutions of iodoferrocene in organic solvents (benzene, methylene chloride) with deuterio-trifluoroacetic acid (95 atomic percent deuterium) there is a rapid formation of the ferricene cation and a complex compound of iodoferrocene with iodine. The ferricene cation after reduction by sodium sulfite yields ferrocene containing 9.5 atomic percent deuterium, which corresponds exactly to the replacement of the iodine atom by deuterium. In the case of bromo- and chloroferrocene the substitution of deuterium for the halogen also is observed but to a lesser extent than with iodoferrocene. For the tests 1 ml of deuterio-trifluoroacetic acid (95 atomic percent deu-

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L 55127-65

ACCESSION NR: AP5012767

terium, boiling point of 71-72°) which had been previously saturated with nitrogen was added to a solution of 0.6 grams (0.0019 mol) of iodoferrocene (melting point of 45-46°, from methanol) in 1.5 ml of benzene in a stream of pure dry nitrogen. Immediately a violet color appeared and a black-violet precipitate settled out. After 1-2 hours the precipitate was removed and the ferricine cation was extracted from the filtrate with water. The aqueous blue extract was treated with sodium sulfite until a yellow color appeared and was extracted with ether. After driving off the ether the yield was 0.09 grams (0.005 mol) of ferrocene. The precipitate was washed with benzene and purified through sublimation in a vacuum. The bromoferrocene and chloroferrocene were treated in a generally similar manner. Orig. art. has: two sets of equations.

ASSOCIATION: Institut elementoorganicheskogo sinteza Akademii nauk SSSR (Institute of Elementoorganic Synthesis, Academy of Sciences, SSSR)

SUBMITTED: 23Oct64

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 005

OTHER: 005

Card 2/2

L 35317-66 EMT(M)/EMT(1) RM  
ACC NR: AP6026899

SOURCE CODE: UR/0062/65/000/012/2218/2220

AUTHOR: Kursanov, D. N.; Setkina, V. N.; Nefedova, M. N.; Nesmeyanov, A. N.  
ORG: Institute of Organometallic Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Isotopic exchange<sup>19</sup> of hydrogen in alkylferrocenes<sup>1</sup>

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1965, 2218-2220

TOPIC TAGS: isotope, hydrogen, ferrocene, electron donor, acetic acid, benzene, chemical kinetics

ABSTRACT: The reaction of the isotopic exchange of hydrogen in acid media was used as a model for investigating the laws of electrophilic substitution in aromatic systems. Ferrocene readily enters into this reaction and the acetyl groups introduced into the ferrocene molecules markedly reduce the exchange rate of the hydrogen atoms on the nucleus. By investigating the effect of electron-donor substitutes in ferrocene on its reactivity, the authors determined the rate constants of the isotopic exchange of hydrogen of methyl-, ethyl- and 1,1'-diethylferrocenes in a mixture of deuterioacetic and trifluoroacetic acids. It was shown that the introduction of alkyl groups enhances the reactivity of the ferrocene nucleus to a much smaller degree than that of the benzene nucleus. In alkylferrocenes all the hydrogen atoms of the ferrocene nucleus participate in the exchange, and the kinetics of isotopic exchange is not affected by the differences in the reactivity of the various positions. Orig. art. has: 4 tables. [JPRS: 36,455]

SUB CODE: 07 / SUBM DATE: 21Apr65 / ORIG REF: 003 / OTH REF: 001

Cord 1/1

UDC: 542.957+546.72+546.11.2

L 35327-66 EWT(m)/EWP(j) RM

ACC NR: AP6026836

SOURCE CODE: UR/0020/66/166/002/0374/0377

AUTHOR: Nefedova, M.N.; Kursanov, D.N. (Corresponding member AN SSSR); Setkina, V.N.; Perevalova, E.G.; Nesmeyanov, A.N. (Academician)

ORG: none

TITLE: Effect of substituents on the rate of isotopic hydrogen exchange in ferrocene derivatives 19 37 B 1

SOURCE: AN SSSR. Doklady, v. 166, no. 2, 1966, 374-377

TOPIC TAGS: ferrocene, electron donor, dissociation constant, substituent, reaction rate

ABSTRACT:

The authors determined the rate constants for acid isotopic exchange of hydrogen in six monosubstituted and four disubstituted ferrocenes. The relative rate constants  $K_{rel}$  were then calculated assuming unity for unsubstituted ferrocene. The substituents studied included both electro-donor and electron-acceptor types. An analysis of the resultant data shows that the effect of the substituent on the reaction rate in an aromatic compound may be described as a combination of induction and conjugation. The conjugation effect is much less important in this case than it is in electrophilic substitution in the benzene series. It was found that the substituent

Card 1/2

UDC: 546.11.2+542.957+546.72

L 35327-66

ACC NR: AP6026836

constants obtained from the dissociation constants for phenylacetic acids may be used as a quantitative index of the effect which the substituent has on the reaction rate. Curves for  $\ln k/k_0$  for all substituents studied show a linear correlation with these constants. Heterocyclic disubstituted derivatives lie on this same line if doubled values of substituent constants are used, i.e., the substituents have an additive effect within the limits of experimental error. The authors thank S.L. Portnova and G.P. Syrova for taking the nuclear resonance spectra. The authors further thank V.A. Pal'm and N.P. Gambaryan for participating in the discussions of the results. Orig. art. has: 1 figure and 1 table [JPRS: 36, 455]

SUB CODE: 07 / SUBM DATE: 23Sep65 / ORIG REF: 013 / OTH REF: 010

Card 2/2 *Ldk*

1. 01500-00 001(01/000(00) RM

ACC NR: AP6017884

SOURCE CODE: UR/0062/66/000/005/0944/0944

AUTHOR: Nesmeyanov, A. N.; Kursanov, D. N.; Setkina, V. N.; Kislyakova, N.V.;  
Kolobova, D. N.; Anisimov, K. N.

ORG: Institute of Organometallic Compounds, Academy of Sciences, SSSR (Institut  
elementoorganicheskikh soedineniy Akademii nauk SSSR)

TITLE: Isotopic exchange of hydrogen atoms of manganese cyclopentadienyltricarbonyl  
and rhenium cyclopentadienyltricarbonyl in alkaline media

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 5, 1966, 944

TOPIC TAGS: hydrogen, manganese compound, rhenium compound, deuterium, *isotope,*  
*isotopic exchange*

ABSTRACT: The authors found that manganese cyclopentadienyltricarbonyl (MCT) and rhenium cyclopentadienyltricarbonyl (RCT) enter into the reaction of isotopic exchange of hydrogen under the influence of alkali catalysts. For example, all the hydrogen atoms of the cyclopentadienyl rings of MCT and RCT are exchanged for deuterium in the reaction with deuterioethanol in the presence of sodium alcoholate. The kinetics of this reaction were studied at 100°C at molar ratios MCT or RCT:C<sub>2</sub>H<sub>5</sub>OD:C<sub>2</sub>H<sub>5</sub>ONa = 1:120:9.5. The rate constants of hydrogen exchange under these conditions are  $3 \times 10^{-6}$  sec<sup>-1</sup> and  $80 \times 10^{-6}$  sec<sup>-1</sup> for MCT and RCT respectively, i.e., the relative reactivity of the cyclopentadienyl rings of the rhenium derivative is almost 27 times that of

UDC: 547.1'3 + 541.127 + 539.183.2 + 661.183.123

Card 1/2



1 36516-56

ACC NR: AP6017884

the cyclopentadienyl derivative of manganese. The opposite relationship is observed in acid catalysis, and the exchange capacity of the hydrogen atoms in the cyclopentadienyl rings linked to manganese is higher than in the rhodium compounds. It is concluded that on passing from Mn (an element of period 4) to Re (period 6) of group VII of the periodic system, the reactivity of cyclopentadienyl ligands in acid media decreases, whereas in alkaline media the opposite is observed.

SUB CODE: 07/ SUBM DATE: 12Feb66/ ORIG REF: 002/ OTH REF: 001

Card

2/2/11LP

PARFEN, G.N.; KALINKIN, M.I.; KURBANOV, D.U.

Separation of molecular hydrogen from a mixture and of a  
hydrolyzable hydrogen from the C-H bond. Dokl. AN SSSR  
165 no. 12:1093-1094 D 168. (MIRA 12:1)

1. Institut elementoorganicheskikh soedineniy, Moscow, U.S.S.R.
2. Correspondent, AN SSSR (G. N. Kurbanov). Submitted  
June 12, 1965.

PAPNES, Z.N.; ZDANOVICH, V.I.; KUGUCHEVA, Ye.Ye.; BASOVA, G.I.; KURBANOV, B.N.

Ionic hydrogenation of the ethylene bond. Dokl. AN SSSR 166  
no.1:122-124 Ja '66. (MIRA 19:1)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
2. Chlen-korrespondent AN SSSR (for Kurbanov). Submitted  
June 19, 1965.

KUFANOV, D.N.; SETKINA, V.K.; NEFEDOVA, M.N.; NESMEYANOV, A.N.

Hydrogen isotope exchange in alkylferrocenes. (zv. AN SSSR. Ser. khim.  
no. 12:2218-2220 '65. (MIRA 18:12)

1. Institut elementoorganicheskikh soedineniy AN SSSR. Submitted  
April 21, 1965.

ZDANOVICH, V.I.; PARNES, Z.N.; KURSANOV, E.N.

Transfer of the effect of substituents in the series of cis- and trans-cinnamic acids. Dokl. AN SSSR 165 no.3 566-568 N '65.

(MJRA 18:11)

1. Institut elementnorganicheskikh soedineniy AN SSSR, 2. Chlen-korrespondent AN SSSR (for Kursanov).

SETKINA, V.N.; BARANETSKAYA, N.K.; ANISIMOV, K.N.; KURSANOV, D.N.

Isotope exchange of hydrogen atoms of benzene chromium tricarbonyl.  
Izv. AN SSSR. Ser. khim. no.10:1873-1874 O '64. (MIRA 17:12)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

KURSANOV, D.N.; SETKINA, V.N.; NOVIKOV, Yu.N.

Reversible hydride exchange of hydrogen in Si-H bonds of  
phenylsilanes. Izv. AN SSSR. Ser. khim. no.10:1911 O '64.  
(MIRA 17:12)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

NESMEYANOV, A.N., akademik; KURSANOV, D.N.; NEFEDOVA, M.N.; SETKINA,  
V.N., PEREVALOVA, E.G.

Substitution of a proton for a halogen in ferrocene halides. Dokl.  
AN SSSR 161 no.6:1349-1351 Ap '65. (MIRA 18:5)

1. Institut elementoorganicheskogo sinteza AN SSSR, 2. Chlen-kor-  
respondent AN SSSR (for Kursanov).



NESMEYANOV, A.N.; KURSANOV, D.N.; SETKINA, V.N.; KISLYAKOVA, N.V.; KOLOBOVA,  
N.Ye.; ANISIMOV, K.N.

Isotopic exchange of hydrogen atoms in cyclopentadienyl rhenium tricarbonyl.  
Izv. AN SSSR. Ser. khim. no.4:762 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

KURSANOV, G. A.

Philosophy

Against reactionary philosophy of imperialistic bourgeoisie ("In defense of philosophy; against positivism and pragmatism." M. Kornfort. Reviewed by G. A. Kursanov)., Vest AN SSSR, 21, no. 12, 1951.

Monthly List of Russian Accessions, Library of Congress, May 1952, Unclass.

1. IOVCHUK, M. I.; KURSANOV, G. A.

2. USSR (600)

4. Science - Philosophy

7. Results of the philosophy seminar for scientific workers of Sverdlovsk,  
Vop. filos, No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

*KURSANOV, G. A.*

USSR/ Miscellaneous - Philosophy

Card 1/1    Pub. 124 - 14/26

Authors    :    Kursanov, G. A., Dr. of Philosoph. Sc.

Title       :    Some of the newest "revelations" of bourgeois gnosiologists

Periodical :    Vest. AN SSSR 10, 72-81, Oct 1954

Abstract    :    The author ridicules the newest publications of gnosiologists (epistemologists) of western nations, claiming they are enveloped in mysticism, agnosticism and servants of fideism and religion, and tools of the imperialistic reaction against the great teachings of Marxism-Leninism. Twenty-eight references: 4-USSR; 2-Italian; 1-German; 1-French and 20-USA (1929-1953).

Institution :    .....

Submitted   :    .....